

Please amend the claims as follows:

- 1 **1. (currently amended)** A software object that contains symbolic names and is executable in an
2 execution environment for the software object, the execution environment resolving the symbolic
3 names, the symbolic names including system symbolic names defined in the execution
4 environment, the execution environment executing in a processor, and the software object being
5 contained in a memory device accessible to the processor, and
6 the software object comprising:
 - 7 one or more obfuscated symbolic names that correspond to system symbolic names;
 - 8 a first association between the obfuscated symbolic names and encrypted forms of the
 - 9 corresponding system symbolic names; and
 - 10 a static watermark that has been added to the ~~code~~software object,
 - 11 the execution environment including a second association of the encrypted forms with
 - 12 information needed to resolve the corresponding system symbolic names and the execution
 - 13 environment using the first and second associations to resolve the obfuscated symbolic names, and
 - 14 using the static watermark to determine whether the software object has been altered prior to the
 - 15 software object being executed in the program execution environment.

- 1 **2. (previously presented)** The software object set forth in claim 1 wherein:
 - 2 the static watermark's value is a digest of the software object prior to addition of the static
 - 3 watermark.

- 1 **3. (previously presented)** The software object set forth in claim 1 wherein the software object
2 further comprises:
 - 3 other obfuscated names that replace names defined in source code from which the software
 - 4 object was made.

- 1 **4. (previously presented)** The software object set forth in claim 1 wherein:

2 the software object is downloaded to the program execution environment for execution.

1 **5. (previously presented)** The software object set forth in claim 1, the software object further
2 comprising;

3 an encrypted first key, the first key having been used to produce the encrypted forms of the
4 corresponding system symbolic names,

5 the execution environment having access to a second key that can decrypt the first key; and

6 the execution environment using the second key to decrypt the first key and the first key to
7 make the encrypted forms in the second association.

1 **6. (Original)** An improved class loader that loads a class in a program execution environment in a
2 host computer system, the class being required for execution of a program in the program
3 execution environment and the program including a first association between symbolic names in
4 the program and encrypted forms of symbolic names defined in the class and the improved class
5 loader being characterized in that:

6 the improved class loader extends the class on execution of the program in the program
7 execution environment by

8 using the first association and a second association between the encrypted forms
9 and information used to resolve the symbolic names defined in the class to resolve the symbolic
10 names in the program, and

11 adding a method to the program which determines whether the program has been
12 modified by the host.

1 **7. (Original)** The improved class loader set forth in claim 6 wherein:

2 the method is encrypted prior to being added to the program; and

3 the improved class loader decrypts the method on adding the method to the program.

1 **8. (Original)** The improved class loader set forth in claim 7 wherein:

2 the program includes information from which the method determines whether the program
3 has been modified by the host.

1 **9. (Original)** The improved class loader set forth in claim 6 wherein:

2 the program includes a static watermark; and

3 the static watermark is the information from which the method determines whether the

4 program has been modified by the host.

1 **10. (Original)** The improved class loader set forth in claim 9 wherein:

2 the static watermark's value is a digest of the program prior to addition of the static

3 watermark.

1 **11. (Original)** The improved class loader set forth in claim 9 wherein:

2 The static watermark is at a location in the program that is determined by a key; and

3 the method has access to the key and uses the key to locate the static watermark.

1 **12. (Original)** The improved class loader set forth in claim 6 wherein:

2 the improved class loader has access to an encryption key that was used to produce the
3 encrypted forms in the first association; and

4 the improved class loader uses the encryption key to produce the second association on
5 loading the class.

1 **13. (Original)** The improved class loader set forth in claim 12 wherein:

2 the program includes an encrypted form of the encryption key used to produce the second
3 association; and

4 the improved class loader obtains the encryption key by using a decryption key to decrypt
5 the encrypted form of the encryption key.

1 **14. (Original)** A method of protecting a program that is executed in a host computer system from

2 the host, the program being executed in a program execution environment that loads a class, the

3 class being required for execution of the program in the program execution environment, and the

4 program including a first association between symbolic names in the program and encrypted forms

5 of symbolic names defined in the class,

6 the method being characterized by the steps performed in the class loader of:
7 making a second association between the encrypted forms and information used to resolve
8 the symbolic names defined in the class, the first and second associations being used to resolve
9 the symbolic names, and
10 adding a method to the program which determines whether the program has been modified
11 by the host.

1 **15. (Original)** The method set forth in claim 14 wherein:

2 the added method is encrypted; and

3 the step of adding the method includes the step of decrypting the method.

1 **16. (Original)** The method set forth in claim 14 wherein:

2 the program includes information which the added method uses to determine whether the
3 program has been modified by the host.

1 **17. (Original)** The method set forth in claim 14 wherein:

2 the program includes a static watermark; and

3 the static watermark is the information used by the added method to determine whether the
4 program has been modified by the host.

1 **18. (Original)** The method set forth in claim 17 wherein:

2 the static watermark's value is a digest of the program prior to addition of the static
3 watermark; and

4 the added method reads the static watermark, recomputes the digest, and compares the
5 recomputed digest with the watermark's value.

1 **19. (Original)** The method set forth in claim 17 wherein:

2 the added method uses a key to locate the static watermark in the program.

1 **20. (Original)** The method set forth in claim 14 wherein:

2 the class loader has access to an encryption key that was used to produce the encrypted
3 forms in the first association; and

4 the step of making a second association includes the steps of accessing the encryption key
5 and using the encryption key to produce the encrypted forms.

1 **21. (Original)** The method set forth in claim 20 wherein:

2 the program includes an encrypted form of the encryption key that was used to produce the
3 encrypted forms; and

4 the step of accessing the encryption key includes the step of using a decryption key to
5 decrypt the encrypted form of the encryption key.

1 **22. (Previously presented)** A method of protecting a software object that is executed in a host
2 computer system from the host, the software object being executed in an execution environment
3 for the software object in the host computer system, the execution environment loading a class that
4 is used in executing the software object in the execution environment and the method being
5 characterized by:

6 steps performed prior to execution of the software object in the execution environment
7 comprising

8 replacing symbolic names in the software object that are defined in the class with
9 obfuscated symbolic names corresponding thereto; and

10 making a first association between the obfuscated symbolic names and encrypted
11 forms of the replaced symbolic names; and

12 steps performed during the execution of the software object in the execution environment
13 comprising

14 making a second association between the encrypted forms of the symbolic names
15 and information required to resolve the symbolic names;

16 adding a method to the software object that determines whether the software object
17 has been modified by the host;

18 using the first and second associations to resolve the obfuscated symbolic names;

19 and

20 executing the added method to determine whether the software object has been
21 modified by the host.

1 **23. (Previously presented)** The method of protecting the software object set forth in claim 22
2 further characterized in that:
3 the steps performed prior to executing the software object further comprise the step of
4 obfuscating other symbolic names that are not defined in the class.

1 **24. (Previously presented)** The method of protecting the software object set forth in claim 22
2 further characterized in that:
3 the method to be added is encrypted; and
4 the step of adding the method includes the step of decrypting the method.

1 **25. (Previously presented)** The method of protecting the software object set forth in claim 22
2 further characterized in that:
3 the software object includes information from which the method can determine whether the
4 software object has been modified by the host; and
5 in the step of executing the added method, the added method uses the information to
6 determine whether the software object has been modified by the host.

1 **26. (Previously presented)** The method of protecting the software object set forth in claim 25
2 further characterized in that:
3 the steps performed prior to executing the software object further comprise
4 adding a static watermark to the software object; and
5 the static watermark is the information used by the added method.

1 **27. (Previously presented)** The method of protecting the software object set forth in claim 26
2 further characterized in that:
3 in the step of adding the static watermark, the location of the static watermark in the
4 software object is determined by a key; and

5 in the step of executing the added method, the added method uses the key to locate the
6 watermark.

1 **28. (Previously presented)** The method of protecting the software object set forth in claim 22
2 further characterized in that:

3 the step of making the second association includes the steps of
4 obtaining a key used to make the encrypted forms in the first association and
5 using the obtained key to make the encrypted forms in the second association.

1 **29. (Previously presented)** The method set forth in claim 28 further characterized in
2 that:

3 the software object includes an encrypted form of the encryption key that was
4 used to make the encrypted forms in the first association; and

5 the step of obtaining the key includes the step of using a decryption key to decrypt
6 the encrypted form of the encryption key.